A Robot Ultrasonic Pest Repellent

Hammoudeh, Mohammad Yahya (School: Jubilee School)
AlHayek, Wafa' Eslam (School: Jubilee School)

A pesticide is a chemical or biological agent such as a virus or bacterium that deters or kills pests. Farmers use pesticides to protect crops from harmful insects and pests that use up their nutrients and slow down or even stop a crop’s growth. Using chemical pesticides results in various serious problems from different aspects such as human, environmental, and bee’s health. Recent studies show that pests can be repelled using ultrasonic sound frequencies. For example, mosquitoes possess a hearing range of 38-44 kHz while rodents have the hearing range of 60-72 kHz. At the highest frequencies in their hearing range pests get repelled due to getting irritated by the loud noise. These frequencies cannot be heard by the human ear or by bees. Essentially the device is a small robot that utilizes solar energy in order to produce ultrasonic frequencies to repel pests instead of using chemical pesticides. The device uses solar energy to function throughout the day adjusting the intensity of the sound based on the background noise using an ultrasonic sensor and moves through a suggested route going back and forth repelling pests covering a big portion of the farm. The robot continues to move at night using the energy stored in its battery. The robot moves according to the path in order to avoid repelling other living organisms that do not affect crops negatively.

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